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Oral Vs Parentral Iron Therapy among Women in Post Partum Period

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Abstract

Objective: To determine efficacy of oral iron therapy as compared to parentral iron therapy.

Study design and duration: This is a prospective study of observational type. Study consists on the duration of 5 months.

Setting: This study was conducted in Bahawal Victoria Hospital Bahawalpur.

Patients and Methods: Anemic patients having Hb less than 10g/dl were included in this study. Two groups were formed group-A and group-B. Group-A was given oral iron therapy while group-B was given Intravenous iron therapy and outcome was noted after 30 days and 60 days in the form of hemoglobin level, hematochrit and MCV values. All data collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages. Tables and Graphs used to present data. Consent was taken from ethical committee of the study hospital and consent was also taken from all cases in study group.

Results: There were total 70 cases in study group selected via randomized controlled trials. There were two groups containing 35 in each group. In group-A after 60 days of iron therapy via oral route HB value was 10.7 g/dl and after 60 days 11.8g/dl with the change of 22.4% in HB level. In Group-B after 60 days of intravenous iron therapy HB level was 12.9 g/dl with improvement of 38.8% in HB level. P- Value was 0.05. Age range of cases was 15-35 years of age with mean age of 31.4 years. Baseline characteristics of cases in group-A were age 33±4 years, BMI 23±5, HB level was 9.2±1 g/dl, Hematochrit (HCT) was 29.5±3 and MCV was 72±0.6. In group B mean age was 34±3, BMI 21±2, HB level 9.2±0.5, Hct was 28.6±3.4, MCV was 70±4.

Conclusion: Parentral route of iron therapy is more effective in post partum period in women than oral route with more improvement in blood hemoglobin, hematochrit and MCV value.

Key Words: iron therapy, Oral route, Parentral route, Hemoglobin, hematochrit, post partum period

Introduction

Women in post partum period usually develop anemia due to blood loss and in 30% cases Hb level is less than 10g/dl. Anemia is defined as decreased in hemoglobin concentration and Hct as well. Severe anemia with Hb less than 8g/dl is found in 10% cases in post partum period. In pregnancy WHO defines anemia as Hb level less than 11g/dl in first and 3rd trimester and less than 10.5g/dl in 2nd trimester. It is a very common problem worldwide. Iron deficiency anemia in pregnancy is very common. During pregnancy maternal red cell mass is increased and fetoplacental demand for iron is increased as well leading to development of iron deficiency anemia. Iron deficiency during pregnancy and blood loss during delivery cause severe anemia in women and increasing demand for iron therapy. Iron therapy can be given via oral as well as parenral route. Oral route is not much effective as compared to intravenous route due to absorption factor through intestine. Intravenous iron therapy is very effective in incrrasing hemoglobin and Hct level so correcting anemia in one to two months.

Patients and Methods

This is a prospective study in which effect of iron therapy is observed in two groups of patients. This study was started in January 2019 and completed in May 2019 consisting on total duration of 5 months. This study was conducted in a tertiary care hospital Bahawal Victoria Hospital located in Bahawalpur, A city of Pakistan. Anemic patients having Hb less than 10g/dl were included in this study. Two groups were formed group-A and group-B. Group-A was given oral iron therapy while group-B was given Intravenous iron therapy and outcome was noted after 30 days and 60 days in the form of hemoglobin level, hematochrit and MCV values. All data collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages. Tables and Graphs used to present data. Consent was taken from ethical committee of the study hospital and consent was also taken from all cases in study group.

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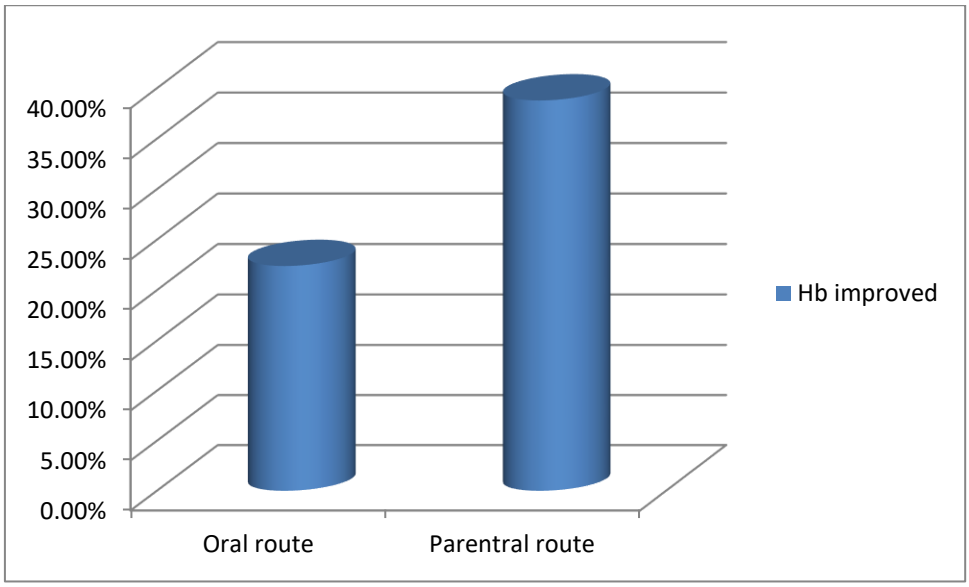

(Figure-1) Improvement in Hemoglobin via oral vs parentral route

DISCUSSION

In women during pregnancy and after delivery anemia develops due to iron deficiency. This anemia needs to be corrected either in the form of oral iron therapy or intravenous therapy. Oran iron is not completely absorbed and many factors decrease its absorption so results are not much satisfactory. Iron given via intravenous route is much effective as 100% bioavailability and its rapid response corrects anemia within days. Usually iron is available in the form of tablets and injection ampoules which are mixed in fluid and given slowly intravenously. Intravenous iron may cause reaction so initially it is given very slowly to check any reaction. Women in post partum period usually develop anemia due to blood loss and in 30% cases Hb level is less than 10g/dl. Anemia is defined as decreased in hemoglobin concentration and Hct as well. There were total 70 cases in study group selected via randomized controlled trials. There were two groups containing 35 in each group. In group-A after 60 days of iron therapy via oral route HB value was 10.7 g/dl and after 60 days 11.8g/dl with the change of 22.4% in HB level. In Group-B after 60 days of intravenous iron therapy HB level was 12.9 g/dl with improvement of 38.8% in HB level. P- Value was 0.05. Age range of cases was 15-35 years of age with mean age of 31.4 years. Severe anemia with Hb less than 8g/dl is found in 10% cases in post partum period. In pregnancy WHO defines anemia as Hb level less than 11g/dl in first and 3rd trimester and less than 10.5g/dl in 2nd trimester. This is a prospective study in which effect of iron therapy is observed in two groups of patients. This study was started in January 2019 and completed in May 2019 consisting on total duration of 5 months. This study was conducted in a tertiary care hospital Bahawal

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Conclusion

Iron given intravenously corrects anemia rapidly as compared to orally given. It improves hemoglobin, hematochrit and MCV effectively. Oral iron therapy is less effective due to non-compliance, less bioavailability and more side effects.

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